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GEOGRAPHICAL PUBLICATIONS (Reviews and Titles of Books, Papers, and Maps)

For key to classification see "Explanatory Note" in Vol. II, pp. 77-81

NORTH AMERICA

UNITED STATES

North-Central States

SALISBURY, R. D., AND H. H. BARROWS. **The environment of Camp Grant.** 75 pp.; maps, diagrs. *Illinois State Geol. Survey Bull.* No. 39. Urbana, 1918. 10 x 7.

According to the letter of transmittal by the chief of the State Geological Survey and the "Foreword" by the authors, this bulletin evidently has been written to show concretely the influence of geographic factors in the solution of many of the problems of the battle field. It was planned for the men in training at Camp Grant and hence discusses the region in which the camp is located.

The bulletin is divided into four parts, viz. Physical Features, Points of Military Significance, The History of the Land, and Nature and Man in the Rockford Region. The text is illuminated by diagrams and maps, including four folded topographic sheets, 1918, "surveyed in co-operation with the War Department and the State of Illinois." These include the Rockford, Belvidere, Kings, and Kirkland quadrangles. A few of the black-and-white maps show no meridians and parallels. Such basic controls in map construction ought never to be omitted. The bulletin is written for the most part in textbook style, making it convenient for study by classes of men in training, if that should prove desirable.

The bulletin is an adventure in some respects, for it is a direct attempt to offer in elementary form a geographic interpretation planned to be also of practical value to the military man. The first two chapters point in the right direction. The relation of movements of underground water to problems of trenching, the location and selection of materials for road building, the location of well sites with respect to the assurance of an adequate supply of good drinking water—these and many other important problems are clearly presented and must impress the soldier with the large advantage which a knowledge of the principles of geography and geology will offer him and his comrades. The application of the third chapter seems in part open to question. For example, one wonders of what significance it is that several ice sheets should have covered the region or that the surface relief "would be increased 250 feet" if the drift were removed. The fact that the region was glaciated is the vital point. The battle or campaign occurs on the present and not on the past surface. The last chapter is gratuitous, appealing largely to the interest of those people in the locality who may care little for the more technical discussion. As a part of a general publication it is well worth while. The general treatment of the bulletin makes one feel that it has been written hurriedly and therefore does not reflect proper credit upon the writers, whose abilities in the art of clear presentation are well known. For this reason, the inclination is to accept the publication as a well-directed contribution and with the hopes that it will soon be replaced with somewhat more effective material. When the professional man offers the layman something practical, it is of the utmost importance for the sake of the professional world that no opportunity be afforded the layman to criticize the work as "impractical" or "academic."

EUGENE VAN CLEEF

GAGNIER, W. F. **Indian place names in the Upper Peninsula [of Michigan] and their interpretation.** *Michigan Hist. Mag.*, Vol. 2, 1918, No. 3, pp. 526-555. Lansing.

GREGG, W. R. **Free-air data at Drexel [Nebr.] Aerological Station: January, February, March, April, May, and June, 1917.** 101 pp.; diagrs., ill. **July, August, September, October, November, December, 1917.** 108 pp.; diagrs. *Monthly Weather Rev. Suppl.* Nos. 10 and 11. U. S. Dept. of Agriculture, Washington, D. C., 1918. [On this and the next publication see the note on p. 182 of this issue.]

GREGG, W. R. **Free-air data at Drexel, Nebr., and Ellendale, N. Dak., Aerological Stations: January, February, and March, 1918, inclusive.** With a description (pp. 12-13) of the Ellendale Aerological Station by V. E. Jakl. 82 pp.; diagrs., ills. *Monthly Weather Rev. Suppl.* No. 12. U. S. Dept. of Agriculture, Washington, D. C. 1918.

MOORE, R. C. **The environment of Camp Funston.** With a chapter on The Western Theater of War by D. W. Johnson. 81 pp.; maps, diagrs., ills. *State Geol. Survey of Kansas Bull. 4.* Topeka, 1918. [Camp Funston was established near Fort Riley, just below the junction of the Republican and Smoky Hill Rivers, which form the Kansas River. The bulletin is accompanied by an excellent map of the environs of the camp on the scale of 1:40,000; relief is shown in fine black contours supplemented by brown shading; woods are shown in green.]

POSEY, C. J. **The influence of geographic factors in the development of Minnesota.** *Minnesota Hist. Bull.*, Vol. 2, 1918, No. 7, pp. 443-453. St. Paul.

ROBINSON, DOANE, C. E. DELAND, AND O. G. LIBBY. **Additional Verendrye material.** Maps, ills. *Mississippi Valley Hist. Rev.*, Vol. 3, 1916, No. 3, pp. 368-399. Cedar Rapids, Iowa. [On the explorer of the northern Great Plains area, 1738-1742. See the note on "Eighteenth Century Explorations in the Middle-West: The routes of the Verendryes" in the *Review*, Vol. 6, 1918, pp. 283-284.]

SHIPPEE, L. B. **The first railroad between the Mississippi and Lake Superior.** *Mississippi Valley Hist. Rev.*, Vol. 5, 1918, No. 2, pp. 121-142. Cedar Rapids, Iowa.

WHITSON, A. R., W. J. GEIB, G. W. CONREY, AND A. E. TAYLOR. **Soil survey of Columbia County, Wisconsin.** iv. and 84 pp.; maps, ills. *Wisconsin Geol. and Nat. Hist. Survey Bull. No. 49: Soil Ser. No. 14.* Madison, 1916.

WHITSON, A. R., W. J. GEIB, T. J. DUNNEWALD, C. B. POST, W. C. BOARDMAN, A. R. ALBERT, A. E. TAYLOR, L. R. SCHOENMANN, AND CARL THOMPSON. **Reconnaissance soil survey of the north part of north central Wisconsin.** ii and 80 pp.; maps, ills. *Wisconsin Geol. and Nat. Hist. Survey Bull. No. 50: Soil Ser. No. 15.* Madison, 1916.

WHITSON, A. R., W. J. GEIB, O. J. NOER, AND A. H. MEYER. **Soil survey of Jefferson County, Wisconsin.** 78 pp.; maps, ills. *Wisconsin Geol. and Nat. Hist. Survey Bull. No. 48: Soil Ser. No. 13.* Madison, 1916.

WHITSON, A. R., W. J. GEIB, CARL THOMPSON, C. B. POST, A. L. BUSER, L. R. SCHOENMANN, AND A. E. TAYLOR. **Reconnaissance soil survey of north eastern Wisconsin.** iv and 87 pp.; maps, ills. *Wisconsin Geol. and Nat. Hist. Survey Bull. No. 47: Soil Ser. No. 12.* Madison, 1916.

WRIGHT, G. F. **Explanation of the abandoned beaches about the south end of Lake Michigan.** Maps, ill. *Bull. Geol. Soc. of Amer.*, Vol. 29, 1918, No. 2, pp. 235-244.

— [Topographic map of the United States.] Sheets, 1:62,500: (1) Altenburg, (2) Dixon, (3) Good Hope, (4) La Harpe, (5) Morris, (6) Vermont, Ill.; (7) College Corner, Ind.-Ohio; (8) Cedar Springs, (9) Ionia, (10) Lowell, Mich.; (11) Felicity, (12) Fort Recovery, (13) Seaman, Ohio. U. S. Geological Survey, Washington, D. C., 1918.

— **North Dakota, State of.** Compiled from official Records of the General Land Office and other sources under the direction of I. P. Berthrong. 1 in.:12 miles (1:760,320). General Land Office, Dept. of the Interior, Washington, D. C., 1918.

Western States

KEARNEY, T. H., L. J. BRIGGS, H. L. SHANTZ, J. W. McLANE, AND R. L. PIEMEISEL. **Indicator significance of vegetation in Tooele Valley, Utah.** Map, diagrs., ills. Reprint from *Journ. of Agric. Research*, Vol. 1, 1914, No. 5, pp. 365-417. U. S. Dept. of Agriculture, Washington, D. C.

A paper of more than ordinary interest to plant geographers. One of its authors (Shantz) in an earlier paper described the correlation which exists between the vegetation types of the Great Plains and the physical characteristics of the soil; and from that he has drawn comparisons between the native growth and the suitability of the land for dry farming. The intensive study of Tooele Valley has carried this work much further. It is now possible to demonstrate (1) that a sagebrush (*Artemisia tridentata*) "association," when in good stand, indicates land that is well adapted to dry farming and irrigation; (2) that the Kochia (*Kochia vestita*) "association" denotes that dry farming is precarious owing to the small depth of soil free from alkali; (3) that the shadscale (*Atriplex confertifolia*) "association" indicates that dry farming is nearly as precarious as on Kochia land but that where water is available for irrigation the salts can probably be leached out of the soil; and (4) that the greasewood shadscale (*Sarcobatus vermiculatus* and *Atriplex confertifolia*) "association" grows on land which is not suitable for dry farming but which can be made to produce good crops

under irrigation. The relation between the root development and the conditions of soil moisture is shown in an accompanying diagram. The report contains a detailed map of the Tooele Valley on the south shore of Great Salt Lake.

TWITCHELL, R. E., edit. *Historical sketch of Governor William Carr Lane, together with diary of his journey from St. Louis, Mo., to Santa Fe, N. M., July 31st, to September 9th, 1852.* 62 pp.; ills. *Hist. Soc. of New Mexico [Publ.] No. 4, [n. p.] 1917.* 9 x 6.

Lane was appointed Governor of New Mexico by President Fillmore, and the journal records the incidents of his overland trip to the Territory of New Mexico, then only slightly known. He sets forth the potentialities of the territory in his first message to the Legislative Assembly (reproduced in the introduction), dwelling especially on the hydrography, while the annotator notes at length the controversy over the southern boundary, which arose from a question of national jurisdiction. Governor Lane's proclamation on the subject is included. The diary itself, comprising pages 23-62, is thoroughly elucidated by Mr. Twitchell, the notes shedding much light on the geography of the country through which passed the Santa Fe Trail. F. W. HODGE

FEWKES, J. W. *Types of prehistoric Southwestern architecture.* *Proc. Amer. Antiquarian Soc. at the Semi-Ann. Meeting Held in Boston Apr. 11, 1917, Vol. 27 (N. S.), 1917, Part I,* pp. 67-82.

FREEMAN, O. W. *Geographic influences affecting distribution of population and character of industries in Montana.* Reprinted from *Inter-Mountain Educator*, 1916, Jan. [7 pp.] [Abstracted in the *Review*, Vol. 1, 1916, p. 217.]

REED, W. G. *Rainfall data of Berkeley, California.* *Univ. of California Publs. in Engin.*, Vol. 1, 1915, No. 5, pp. 69-81. [Rainfall has been measured at Berkeley at least once a day since the establishment of the meteorological station at the University of California in 1887. More frequent observations have also been made from time to time, although the practice has varied. In view of the fact that the published rainfall data for the eastern San Francisco Bay region are rather scanty, Mr. William G. Reed has assembled the above data in this paper. The tables include the monthly and seasonal rainfall; number of days with 0.01 inch or more; greatest rainfall in 24 consecutive hours; and precipitation of marked intensity (see *Geogr. Rev.*, Vol. 2, 1916, pp. 385-386).—R. DEC. WARD.]

ROBBINS, W. W., J. P. HARRINGTON, AND BARBARA FREIRE-MARRECO. *Ethnobotany of the Tewa Indians.* xii and 124 pp.; map, ills., bibliogr., index. *Bur. of Amer. Ethnol. Bull. 55.* Smithsonian Institution, Washington, D. C., 1916. [Contains a section of geographic interest entitled "Cultivated Plants," which cites growing improvidence among the Tewa Indians near the railways; and also an archeological map of the Jemez Plateau and a good bibliography with several ethnogeographical entries.]

ROLFE, F. *Commercial geography of southern California.* 63 pp.; maps, diagrs., ills., index. [Biola Press, Los Angeles,] 1915. 8 x 5.

— *Lake Washington Ship Canal, Puget Sound to Lake Washington, Washington.* 1:10,000. *U. S. Coast and Geodetic Survey Chart No. 6447.* Washington, D. C., Aug., 1918.

— *San Diego Bay, California.* 1:20,000. *U. S. Coast and Geodetic Survey Chart No. 5107.* Washington, D. C., May, 1918.

— [*Topographic map of the United States.*] Sheets: (1) *Berenda*, (2) *Lingard*, (3) *Owens Creek*, (4) *Spring Valley, Cal.*, 1:81,680; (5) *Paradise Valley, Idaho*, 1:62,500; (6) *Heart Butte, Mont.*, 1:125,000; (7) *Stockton, Utah*, 1:62,500. U. S. Geol. Survey, Washington, D. C., 1918.

EUROPE

SWITZERLAND, OR THE ALPS

SCHEFFEL, P. H. *Verkehrsgeschichte der Alpen.* Vol. 1: *Bis zum Ende des Ostgotenreiches Theodorichs des Grossen.* viii and 206 pp. 1908. 11s. 3d. Vol. 2: *Das Mittelalter.* viii and 297 pp. 1914. 16s. Dietrich Reimer (Ernst Vohsen), Berlin. 10½ x 8.

A history of trade and transportation in the Alps might well constitute a monumental monograph in the field of historical geography. The author of the present

volumes has hardly realized such a success, although here and there some carefully finished passage shows the attainment of a high level that is not sustained by the text in general. The deficiencies of the volumes are apparent, possibly more so than real. One looks in vain for a single picture, diagram, map—an illustration of any sort. Yet in the first volume Roman place names crowd the pages and in many cases are not located readily even by the classical student. References are furnished very sparingly. As yet no index is available, although one is promised. The title itself is somewhat misleading, as trade is a minor consideration in a large proportion of the chapters.

The set, nevertheless, is valuable to the student of Alpine affairs. The author is generously appreciative of geographic factors in history and has supplied in Volume 2 a good introductory chapter on "Natural Forces in the History of Alpine Regions." Three types of historical movements are taken up, namely the migrations and lesser shiftings of races, military expeditions, and commercial developments. Apparently one additional volume is planned. Most of the chapters are organized in historical sequence, a number, however, being concerned directly with highways of different periods. Thus, Chapter 6, Volume 1, deals with Roman roads, and the latter part of Volume 2 is an elaborate account of Alpine roads in the Middle Ages. The author has taken especial interest in the knotty problems of racial history in the Alps, most particularly in that of the Rhaeto-Romanish. Chapter 7, Volume 2, is a contribution of merit on racial conditions in medieval times. To the American reader the difficulties of research in European historical geography are made manifest, especially in two ways, first by the testimony of finds of antique coins on the beginnings, extent, and interruptions of Roman and pre-Roman colonization and trade, and secondly, by tracing through the origin of place names, family names, and even of traditions otherwise unrecorded racial movements.

CARL O. SAUER

ANFOSSI, G. *Il lago di Märjelen.* Map. *Riv. Geogr. Italiana*, Vol. 23, 1916, No. 4-5, pp. 202-209. Florence. [Lake Märjelen is a small lake on the eastern side of the Aletsch Glacier in the Bernese Oberland.]

COOLIDGE, W. A. B. *Il Col d'Hérens (3480 m.) nella storia.* *Riv. Mensile Club Alpino Italiano*, Vol. 35, 1916, No. 7, pp. 185-197. Turin. [The Col d'Hérens is a glacier pass leading from the head of the Val d'Anniviers, a left tributary of the upper Rhone, to Zermatt at the foot of the Monte Rosa massif.]

FRESHFIELD, D. W. *The great passes of the Western and Central Alps.* Map, ills. *Geogr. Journ.*, Vol. 49, 1917, No. 1, pp. 2-26 (discussion, pp. 22-26). [Substantially the same paper was published in *Alpine Journ.*, No. 215, Vol. 31, 1917, pp. 158-189.]

HAUSER, HENRI. *La position géographique de la Suisse: Étude de géographie politique.* *Ann. de Géogr.*, No. 138, Vol. 25, 1916, pp. 413-428. [Abstracted in the *Review*, Vol. 3, 1917, p. 401.]

HORWITZ, M. L. *Sulla variabilità assoluta della temperatura annuale nella Svizzera.* *Boll. Bibliogr.* No. 4, 1916, pp. 7-8. Ufficio Idrografico, R. Magistrato alle Acque, Venice. [Abstract of an article published in *Archives des Sci. Physiques et Naturelles*, 1916, Aug. 15, Geneva.]

LORENZI, ARRIGO. *La funzione politica delle Alpi.* *Riv. Geogr. Italiana*, Vol. 23, 1916, No. 4-5, pp. 153-176. Florence.

LÜTSCHG, O. *Il lago di Märjelen.* *Boll. Bibliogr.* No. 4, 1916, pp. 25-26. Ufficio Idrografico, R. Magistrato alle Acque, Venice. [Review of a work published in 1916 in Geneva.]

ROCCATI, ALESSANDRO. *Il glacialismo nelle Alpi Marittime.* Ills. *Riv. Mensile Club Alpino Italiano*, Vol. 35, 1916, No. 2, pp. 41-47; No. 3, pp. 75-80. Turin.

RODRÍGUEZ, E. M. *Suiza: Noticia general geográfica y estudio especial de su geografía postal y de comunicaciones.* *Rev. de Geogr. Colon. y Mercantil*, Vol. 14, 1917, No. 1-2, pp. 10-40; No. 3, pp. 82-111. Real Soc. Geogr., Madrid.

ROEMER, ADOLF. *Klimatologisches über das St. Gallische Gebiet zwischen Walen- und Zürichsee.* Map. *Mitt. Ostschweizerischen Geogr. Commerc. Gesell. in St. Gallen*, 1915, No. 1-2, pp. 38-59. St. Gall.

SACCO, FEDERICO. *I ghiacciai antichi e attuali delle Alpi Marittime centrali.* Map. *Atti Soc. Italiana di Sci. Nat.*, Vol. 51, 1912, pp. 99-128. Pavia. [With map showing the great size of the Pleistocene glaciers compared with those known at present.]

TSCHUDI, IWAN VON. *Der Tourist in der Schweiz und Grenzgebieten.* Newly revised with preface by C. Täuber. Vol. I: *Nordschweiz und Westschweiz.* xl and 193 pp.; maps, diagrs. Vol. II: *Urschweiz und Südschweiz.* Pp. vii and 195-370; maps, diagrs., ills. Art. Institut Orell Füssli, Zürich, 1916 and 1917. 6 x 4.

ITALY

ANDRIANI, GIUSEPPE. *Il Finale ligustico.* Map. *Boll. Reale Soc. Geogr. Italiana*, Vol. 5, 1916, No. 10, pp. 824-846. Rome. [Finale is a town on the Riviera di Ponente.]

ANFOSSI, GIOVANNI. *I laghi dell'Appennino settentrionale e la loro distribuzione.* Map, diagr., bibliogr. *Riv. Geogr. Italiana*, Vol. 22, 1915, No. 9-10, pp. 425-457. Florence.

ANFOSSI, GIOVANNI. *Le isole lacuali italiane.* Diagrs. *Boll. Reale Soc. Geogr. Italiana*, Vol. 6, 1917, No. 7-8, pp. 551-563. Rome.

ANFOSSI, GIOVANNI. *Premières recherches sur l'évaporation d'un lac de l'Apennin génois.* *Recueil des Trav. de l'Inst. de Géogr. Alpine*, Vol. 5, 1917, No. 1, pp. 115-127. Grenoble.

ANFOSSI, GIOVANNI. *Volumetria delle isole minori italiane (Studi orometrichi, III).* Diagrs. *Memorie Geogr.* (Suppl. to *Riv. Geogr. Italiana*) No. 31 (= Vol. 10, pp. 223-285). Florence, 1916. [The methods employed in a study of this kind, in which the volume of a land mass is determined, were outlined in a review of a similar work in the *Review*, Vol. 3, 1917, pp. 162-163.]

ARBOS, P. *Études sur l'habitat de montagne en Italie.* *Recueil des Trav. de l'Inst. de Géogr. Alpine*, Vol. 4, 1916, No. 2, pp. 259-274. Grenoble.

AZZI, G. *Le problème de la météorologie agricole.* *Rev. Gén. des Sci.*, Vol. 29, 1918, May 30, pp. 307-311. [With special reference to the cultivation of wheat in Italy.]

BARATTA, MARIO, TORQUATO TARAMELLI, ALESSANDRO MARTELLI, GIOTTO DAINELLI, AND PAOLO VINASSA DE REGNY. *Pagine geografiche della nostra guerra: Raccolta delle conferenze tenute nell'anno 1916 alla Reale Società Geografica Italiana.* 179 pp.; maps, diagrs., ills. Rome, 1917. [Apropos of the territorial aspirations voiced by the Italian press this publication is of interest. It is a collection of papers read before the Society during the year 1916 and deals with the geographical aspects of the Italo-Austrian frontier region. It reflects the Italian viewpoint, emphasizing the geographical basis for Italy's coveted control of the Adriatic.]

BÉNÉVENT, E. *La plaine du Pô: Étude de géographie humaine d'après le livre de M. Arrigo Lorenzi.* *Recueil des Trav. de l'Inst. de Géogr. Alpine*, Vol. 4, 1916, No. 2, pp. 189-236. Grenoble. [Abstracted in the *Review*, Vol. 5, 1918, pp. 147-148.]

BIANCHI, ADELE. *La Cioceria: Monografia corografica.* Ills., bibliogr. *La Geografia*, Vol. 4, 1916, No. 2-3, pp. 85-99; No. 4-7, pp. 230-255. Novara. [The valley of the Sacco between the Ernici and Lepini ranges in Latium.]

BOUCHER, E. S. *Sardinia in ancient times.* 185 pp.; map, bibliogr., index. B. H. Blackwell, Oxford, 1917. 8 x 5.

BRIAN, ALESSANDRO. *Carte geografiche del Genovesato e dell'Isola di Corsica del secolo XVIII (contributo per la storia della cartografia Ligure e Corsa).* Maps, bibliogr. *Atti Soc. Ligustica di Sci. Nat. e Geogr.*, Vol. 26, 1915, No. 2, pp. 39-56. Genoa.

CABRINI, ANGIOLO. *Emigrazione ed emigranti.* *Riv. Coloniale*, Vol. 11, 1916, No. 9, pp. 458-471; No. 10, pp. 595-608; No. 11, pp. 662-669. Rome. [Italian emigration.]

CANAVARI, IGINO. *La carta geo-agronomica di Casalina (Perugia).* 38 pp.; map. Reprint from *Atti Soc. Toscana di Sci. Nat.*, Vol. 29. Pisa, 1913.

CHECCHIA-RISPOLI, G. *I terrazzi delle pendici meridionali del Gargano.* Map. *La Geografia*, Vol. 4, 1916, No. 4-7, pp. 255-259. Novara. [Monte Gargano occupies the "spur" of Italy's boot.]

COLAMONICO, CARMELO. *La distribuzione della popolazione nella Puglia centrale e meridionale secondo la natura geologica del suolo.* Maps, diagrs. *Boll. Reale Soc. Geogr. Italiana*, Vol. 5, 1916, No. 3, pp. 201-234; No. 4, pp. 274-305; No. 5, pp. 403-429. Rome.

COLAMONICO, CARMELO. *La piovosità della terra d'Otranto.* Maps, diagrs. *Boll. Reale Soc. Geogr. Italiana*, Vol. 6, 1917, No. 7-8, pp. 509-537. Rome.

COLAMONICO, CARMELO. *Zone di piovosità e densità di popolazione nella provincia di Lecce.* Maps. *Riv. Geogr. Italiana*, Vol. 24, 1917, No. 5, pp. 161-180. Florence.

CORTI, ALFREDO, AND WALTHER LAENG. *Le Alpi di Val Grosina.* ix and 106 pp.; map, ills., index. (Gruppo Lombardo Alpinisti senza Guide.) Stabilimento Tipografico "Luzzago," Brescia, 1909. L. 3. 6 x 4.

COSSU, ANGELO. *L'isola di Sardegna: Saggio monografico di geografia fisica e di antropogeografia.* 222 pp.; diagrs., ills., bibliogr. Società Editrice Dante Alighieri de Albrighi, Segati & C., Milan, etc., 1916. L. 2.50. 8½ x 5½.

RICCHIERI, GIUSEPPE. *L'insegnamento della geografia nella progettata revisione dei programmi delle scuole medie.* *Boll. Reale Soc. Geogr. Italiana*, Vol. 7, 1918, No. 7-8, pp. 553-571. Rome.

SBRONCA, A. *Variazioni nella circoscrizione territoriale dei comuni.* Map. *Boll. Reale Soc. Geogr. Italiana*, Vol. 7, 1918, No. 7-8, pp. 586-596. Rome.

AFRICA

SAHARA, INCLUDING EGYPT

HURST, H. E. *The magnetic survey of Egypt and the Sudan.* 53 pp.; maps. *Survey Dept. [of Egypt] Paper No. 33.* Ministry of Finance, Cairo, 1915.

LOFT, GENIVERA. *The caravan trade of the Sahara.* Map, bibliogr. *Journ. of Geogr.*, Vol. 15, 1916-17, No. 7, pp. 221-226. [An informing compilation of facts about caravan routes in the Sahara, their location, the nature of the caravans that traverse them, perils of the route, caravan leaders, nature of the commerce, and its general decline.]

MASI, CORRADO. *Alle frontiere della Libia.* xxxii and 191 pp.; ills. F.lli Lambruschini, Empoli, 1915. 10 x 7.

OLUFSEN, OLE. *Muhammedanske Grave og Gravminder i Sahara og Tunisiens.* Diagrs., ills. *Geografisk Tidskrift*, Vol. 23, 1916, No. 6, pp. 205-224; No. 7, pp. 247-257. Copenhagen.

ROLFE, DEETTE. *Geographic influences in the political development of ancient Egypt.* *Bull. Geogr. Soc. of Philadelphia*, Vol. 14, 1916, No. 4, pp. 169-174.

SCHIAPARELLI, ERNESTO. *La geografia dell'Africa orientale secondo le indicazioni dei monumenti egiziani.* viii and 307 pp.; ills. R. Accademia dei Lincei, Rome, 1916. 12 x 9.

ASIA

GENERAL

HERBERTSON, A. J., AND O. J. R. HOWARTH, edits. *The Oxford survey of the British Empire. Vol. 2: Asia, including the Indian Empire and dependencies, Ceylon, British Malaya and Far Eastern possessions.* x and 505 pp.; maps, ills., index. Clarendon Press, Oxford, 1914. 14s. 9 x 6.

This volume is one of a series of six covering the respective parts of the British Empire, of which the others have already been noticed (America, *Bull. Amer. Geogr. Soc.*, Vol. 47, 1915, pp. 971-972; Africa, *Geogr. Rev.*, Vol. 1, 1916, p. 70; Australasia, *ibid.*, Vol. 6, 1918, p. 380; The British Isles and Mediterranean possessions, and General Survey, *ibid.*, Vol. 7, 1919, pp. 61-62). The reviewer has found the volume of much value for reference. The twelve authors are men of high ability whose names carry weight. The book is intended to be a "survey . . . of the geographical and allied aspects" of the British possessions in Asia "together with their economic, administrative, and social conditions at the present time." This intention is well carried out in the chapters dealing with smaller possessions, but not so well in the case of India. For instance, Professor Gardiner gives an admirable picture of the Maldives and Laccadive Islands. To be sure, his chapter is stronger in its discussion of coral reefs than in its account of the people, but this does no harm, for other chapters emphasize other phases. Thus in the chapter on Ceylon Dr. Willis gives a strong botanical flavor, to which is joined a good deal of archeology, while in the Malay chapter Mr. Graham is particularly strong in his insight into the character of the people. He feels that the art for which they

are sometimes praised was never great and is now declining. They seem to be an inefficient people, best adapted to easy work, such as copra raising. The chapter on Borneo is especially interesting because of its emphasis on the way in which a high-minded man like Rajah Brooke can improve the condition of the natives. It will surprise many to learn that the famous Rajah has purposely retarded the construction of roads and railroads. They bring in outsiders such as the Chinese or Europeans, and thus the poor, incompetent natives are at a disadvantage and gradually go to the wall, as the Malays are fast doing in the Malay Peninsula.

In spite of 300 pages devoted to India the reader receives a much less vivid impression of that country than of the smaller British possessions. Yet many chapters are admirable. For instance, in discussing the vegetation, forestry, and fauna Mr. Eardly-Wilmot is peculiarly happy in pointing out the importance of the forests, which cover 20 per cent of the area and furnish reserve pasturage for the cattle in times of drought. Other chapters, such as those on "Agriculture," "Industrial and Economic Conditions," "Languages, Customs, and Religions," and "Political Government and Administration," are crammed with valuable facts but are so encyclopedic that they are not adapted to general reading.

The most disappointing feature of the book is that it gives little insight into the life of the Indian people. The section on customs, for example, is devoted entirely to a long series of short statements as to customs in respect to marriage and death. Certain other important matters are also treated inadequately. For example, the chapter on agriculture contains the statement that "the Indian budget is a gamble against rain," but nowhere does the book contain more than incidental references to the famines, which are perhaps the most important feature in the economic life of India.

The concluding chapter on India—"Western Influence" by Mr. R. C. Temple—is a masterly treatment of the problem created by the meeting of a fully developed Oriental system and a fully developed Western system. "Caste may be good as a moral restraint, particularly in its reference to women, but it is very bad for political unity, for no two castes work together." This fact has made it easy for the British to rule. The power of caste, however, is being broken. Educated natives are examining the pedigrees of many of the high castes and finding that there is no such purity of blood as has been claimed. Railways, as everyone knows, are deadly enemies of caste because people of all kinds must crowd together. Christian missions and good government are giving the lower castes a new spirit of self-respect. Hence Indian society is being subjected to a great upheaval from beneath. From above there is also a spirit of unrest because of the growth of an educated middle class—a thing never before existing in India.

The attitude of the various classes toward Britain is peculiarly interesting at the present juncture. The educated middle class is sharply split into satisfied, pro-British office holders, and dissatisfied non-office-holders. The lower castes are pro-British. So too are the native princes, for their own position depends on the maintenance of the British Empire. Other small, but powerful groups like the Parsis and Armenians are likewise pro-British, and do much to maintain the Empire. The interplay of such varied forces makes India well-nigh the most interesting country in the world. Therefore a volume such as this is welcome and is sure to be frequently referred to.

ELLSWORTH HUNTINGTON

RECLUS, ONÉSIME, edit. *Grande Géographie Bong illustrée: Les pays et les peuples*: Vol. 3 [Scandinavia, and Asia]. 448 pp.; maps, diagrs., illus. CHARLES RABOT: *La Scandinavie (Norvège, Suède, Danemark, Islande)*, pp. 3-68; PAUL LABBÉ: *Sibérie*, pp. 71-110; D. AITOFF: *Asie occidentale turque et arabe*, pp. 113-160; D. AITOFF: *Asie intérieure*, pp. 163-192; JULES HARMAND: *Perse*, pp. 195-212; HENRI CORDIER: *Chine*, pp. 215-274; PAUL LABBÉ: *La Mantchourie*, pp. 275-280; JULES HARMAND: *Empire indo-britannique*, pp. 283-348; H. DE LAMOTHE: *Péninsule indochinoise*, pp. 351-380; HENRI FROIDEVAUX: *Japon*, pp. 383-412; JULES HARMAND: *Inde néerlandaise*, pp. 415-438. Bong & Cie., Paris, 1913. 15 x 12.

The sketches of Asiatic geography assembled in this volume form well-balanced descriptions of a particularly interesting continent. The authors provide attractive passages on the whole of the great region from Siberia to Ceylon and from Arabia to Japan and the Dutch Indies. Basing their work primarily on relief, they show that natural features have determined the trend of routes and the distribution of populations; but it is mainly the writers' simplicity and their ability to maintain presentation at an agreeable level that give value to their pages.

The spirit of Reclus and his ideals live in this work even though the exhaustiveness which characterized the eminent geographer's masterpiece is far from having been

attained. The Grande Géographie Bong, however, has the greater advantage of affording up-to-date information. Many historical notes, incorporated in the text, are welcome to the historian inclined to fall back upon geography to explain fundamental relations in his own field.

In many places the descriptions might well have been lengthened; yet the reader is given all that he would naturally look for in a general work of this character. The only omission that is really felt is a chapter devoted to Asia as a whole, in which a comprehensive survey might have been presented by way of introduction. Such a chapter might have taken the space reserved for Scandinavia. As it is, the inclusion of northern Europe in a volume otherwise solely devoted to Asia appears awkward.

The reader is therefore trusted to supply the generalization needed in the broad outlook which takes in the world's largest continent. There is zest in this search, and with a little diligence some interesting relations may be worked out. For one thing the intimate connection between eastern and western Asia is brought out. This is necessary for a better understanding of the continent, its men and ideals. Furthermore, vital problems growing out of the war will have to be settled in both eastern and western Asia. For a preliminary acquaintance with these problems as well as with the regions affected, the inquisitively minded reader may resort to this volume with profit.

The mechanical make-up of this work is of exceptional excellence. Splendidly colored illustrations showing localities of scenic or historical fame have been reproduced in full-page size. Included among them is an occasional reproduction of masterpieces by native artists. The maps are clear and of atlas quality, many being colored. Three other volumes in the series have already been reviewed (Vol. 4, Africa, *Geogr. Rev.*, Vol. 4, 1917, p. 327; Vols. 1 and 2, Europe, *Geogr. Rev.*, Vol. 6, 1918, p. 378).

CITATI, PIETRO. *La via maestra alle Indie e le sue succursali.* *Riv. Militare Italiana*, Vol. 40, 1915, No. 10, pp. 1943-1965. Rome. [Sea route to India.]

COOPER, C. S. *The modernizing of the Orient.* 353 pp.; ills., index. McBride, Nast & Co., New York, 1914. \$2.00. 8½ x 5½.

DAVIES, A. M. *The problem of the Himalaya and the Gangetic trough.* *Geogr. Journ.*, Vol. 51, 1918, No. 3, pp. 175-183. [Review of recent literature on the structure of the Himalayas and the Gangetic Plain as elucidated by deviations of the plumb line.]

DINGELSTEDT, V. *Tatar tribes.* *Scottish Geogr. Mag.*, Vol. 33, 1917, No. 5, pp. 209-226.

ECKARDT, W. R. *Über Luftdruckverteilung und Regenfall in Asien, mit besonderer Berücksichtigung der Randgebiete.* Maps. *Annal. der Hydrogr. und Marit. Meteorol.*, Vol. 44, 1916, No. 11, pp. 542-554. Hamburg.

H[INKS], A. R. *The identification of peaks in the Himalaya.* With note by Colonel Sir Sidney Burrard. *Geogr. Journ.*, Vol. 52, 1918, No. 3, pp. 184-193.

KELLAS, A. M. *A consideration of the possibility of ascending the loftier Himalaya.* Diags., ills. *Geogr. Journ.*, Vol. 49, 1917, No. 1, pp. 26-48 (discussion, pp. 46-48). [Considers especially physiological difficulties of high altitudes.]

MACHATSCHEK, FRITZ. *Japan, China, und Russland.* *Österreichische Monatsschr. für den Orient*, Vol. 41, 1915, No. 9-12, pp. 284-286. Vienna.

OKADA, T. *Some researches in the Far Eastern seasonal correlations.* Diags. *Monthly Weather Rev.*, Vol. 45, 1917, No. 5, pp. 238-240. [This is a continuation of the paper that appeared in the *Monthly Weather Rev.*, Jan., 1916 (pp. 17-21), and was noted in the *Geogr. Rev.*, Vol. 2, 1916, p. 166.]

RIVETTA, P. S. *Verso un nuovo equilibrio dell'Asia: Causa e importanza del trattato russo-giapponese nell'estremo e prossimo Oriente.* Map. *Riv. Coloniale*, Vol. 11, 1916, No. 10, pp. 569-579; No. 11, pp. 641-653. Rome.

SCHOFF, W. H. *The transcontinental silk trade at the Christian era.* Map, ills. Reprint from *Proc. Numismatic and Antiquarian Soc. of Philadelphia*, Vol. 27, [1915], pp. 47-64. [By "at the Christian era" is meant at the beginning of the Christian era, or roughly from 100 B. C. to 100 A. D.]

TAI, TSE TSAN. *The creation. The real situation of Eden and the origin of the Chinese.* ix and 45 pp.; maps, ill. Kelly & Walsh, Ltd., Hongkong, 1914. \$2.00. 9 x 5½. [The author places the "Garden of Eden," i.e. the cradle of the human race, in Chinese Turkestan.]

INDIA

GAIT, E. A. *Census of India, 1911.* Vol. 1: Part I: Report. xi, 450, and xviii pp.; maps, diagrs., index. Vol. 2: Part II: Tables. 439 pp. Superintendent of Government Printing, Calcutta, 1913. Vol. 1, 7s. 6d.; Vol. 2, 6s. 13½ x 8½ each.

The Census of India is interesting because it counts the huge number of 315,000,000 people; because it was made in the one moonlight night of March 10, 1911, by a force of 2,000,000 enumerators and superintendents, mostly natives of India; because it cost less than \$700,000; and because the totals were completely reported in nine days—indeed, the two native states Rampur and Sarangarh had complete reports for all parts of the two states ready to telegraph the totals to Calcutta at 8 o'clock on the morning of March 11. The general method was to prepare the schedules for everyone at his customary place of residence several weeks in advance and merely revise the schedules on the appointed date. Some of the most striking errors were made by Europeans, who were allowed to enumerate themselves.

As a great majority of the people of India depend on agriculture for a living, the climate is of great importance and is described in the report with some detail, the monsoons being regarded as the main control for almost all of India. An annual rainfall of 70 inches is needed to ensure crops, and rainfall is a most important factor in the whole distribution of population. The country is divided into sixteen natural divisions, based on rainfall, and these are described at some length. It is not true that population density in India is proportional to the amount of rainfall, but among the natural divisions with less than 40 inches of rain there is "a general correspondence between the rainfall and the density of population." Irrigated areas have a population out of all proportion to their rainfall. Of irrigated lands India has now 35,000 square miles. But even irrigation is quite secondary to surface. The most important of all controls of population density is levelness of surface. Level land may all be cultivated and does not waste by erosion. Hilly land drains dry too readily and washes badly. Terracing must be resorted to; but that demands a deep soil, is costly, and is after all a poor substitute for level land. Even soil is less important in India than surface configuration.

Urban life in India is lived in places of more than 5,000 people, which are hardly more than large villages, without the schools, institutions, trade, and industry that characterize the towns. On this basis less than 10 per cent of the population is urban as compared with 78 in England and Wales and 46 in Germany. The range is from 18 per cent in Bombay, the region of cotton mills, to 3 per cent in Assam, the land of wild peoples. A peculiarity of the larger towns is their small proportion of females, most extreme in Calcutta, where they are but a third as numerous as males. Immigration of male factory workers to the large cities, unaccompanied by their families, has swelled their population. Of cities of 100,000 India has but 30, to 44 in the United Kingdom and 50 in the United States. City life is not well developed in this land; nevertheless there are 28,000,000 people living in cities, two of which have over 1,000,000 each.

One consequence of so general a dependence on agriculture is the liability to famine when the rain fails. But relief programmes are carefully organized and kept up to date so as to be put in operation at a moment's notice.

MARK JEFFERSON

PHYSICAL GEOGRAPHY

METEOROLOGY

— Meteorology, Introductory. Prepared and issued under the auspices of the Division of Geology and Geography, National Research Council. xii and 150 pp.; maps, diagrs., ills., bibliogr. Yale University Press, New Haven, 1918. \$1.00. 9 x 6.

The Committee on Education and Special Training of the War Department wisely included meteorology among the subjects to be studied in the Students' Army Training Corps. To meet the needs of both teachers and students this volume was prepared, under the auspices of the National Research Council, as an emergency text. The specific object for which the book was planned ceased to exist almost immediately after the volume came from the press. There has, however, for some years been increasing need of a textbook of meteorology for general use in college courses, which is up to date, not too advanced in character, and purchasable for a moderate price. Whether the volume now before us fills, or can be so modified as to fill, that manifest need has been the question in the mind of the reviewer and will probably also be the question which will interest many of those who know that the new text is now available.

In the great need of haste in the preparation of this book it was natural and proper that the National Research Council should have entrusted the work to the Weather Bureau in Washington, among several of whose staff the various topics were distributed. The major part of the book was prepared by Professor W. J. Humphreys and is to a considerable extent taken from that writer's papers on the physics of the air recently published in the *Journal of the Franklin Institute*. Other sections were contributed by A. J. Henry, J. Warren Smith, S. P. Fergusson, C. F. Talman, and W. R. Gregg. It is distinctly to the credit of the Weather Bureau that the volume was prepared so promptly.

Characterizing the book as a whole, it may be described as a series of very compact, independent, and rather loosely connected chapters dealing with various meteorological subjects, with marked emphasis on the more distinctly physical aspects of the science, and strikingly lacking the human element. The successive sections deal with the atmosphere; measurement of the meteorological elements; atmospheric temperatures (vertical and horizontal distribution); atmospheric pressure; evaporation and condensation; fogs and clouds; general and secondary circulation of the atmosphere; forecasting, and climate. A short bibliography is also included. Recognizing the extraordinary haste in the preparation of the volume and the necessary difficulties attending its publication in the war emergency, it would naturally be unfitting in the reviewer to venture upon any extended or critical discussion of the book. Noting, however (p. vi), that "criticism is invited to the end that a second edition may show improvement and better adaptation to its purpose," he is encouraged to make a few suggestions.

What the book most needs is a general revision which may better adapt it for use in teaching. This would involve a closer co-ordination of the separate chapters; a fuller, but yet a clear and simple explanation of some of the more difficult subjects, such, for example, as the effects of the earth's rotation; the omission of sections which seem unnecessary in an introductory meteorology, as, for instance, that on atmospheric optics (except for very brief mention), and some of the detailed discussion of vertical temperature gradients and of certain of the less commonly used instruments; a more systematic arrangement of such matters as winds, where a good working classification, such as that suggested by Professor W. M. Davis, helps immensely in teaching; and the addition of a chapter on rainfall, which is now wholly lacking. Considerable revision of the more complex portions of the sections on evaporation and condensation and on the general circulation of the atmosphere would make those subjects more intelligible to the average reader and would therefore further the use of the volume as a textbook. One additional element which is of the greatest importance in making the subject interesting and popular is the need of frequent emphasis on its varied human relations. Few sciences touch man more closely, or at so many different points. If a study of meteorology is to become what it should become, general, popular, and practical, then those who teach it should let no opportunity pass to emphasize the many and varied relations which exist between atmospheric phenomena and the life of man. At present the volume before us lacks, almost completely, this vital interest. Indeed, there is in it only one direct reference to this essentially human and therefore popular aspect of meteorology, that (p. 93) which notes the effect of a mirage on a certain military engagement in Mesopotamia during the war.

To sum up: In its present form, the volume does not seem to be adapted for use as a textbook, although most of it could, without much difficulty, and without greatly increasing the size and cost of the volume, be revised in such a way as to make a second edition a valuable and much-needed book for use in the classroom. If this revision can be carried out, with the viewpoint of the teacher and student in mind, the volume will become a useful addition to the available meteorological textbooks. There are extraordinarily few slips. We note *bogs* for fogs (p. 88); *knwon* for known (p. 93), and that Fig. 6 is upside down.

R. DEC. WARD

ABBOT, C. G. On periodicity in solar variation. 8 pp. Diags. *Smithsonian Misc. Colls.*, Vol. 69, No. 6. Washington, D. C., 1918.

CHAPMAN, S. An outline of a theory of magnetic storms. Diags. *Proc. Royal Soc.*, No. A 666, Ser. A, Vol. 95, 1918, pp. 61-83. London.

MCADIE, ALEXANDER. Uniformity in aerographic records: The desirability of universal scientific units. *Scientific American Suppl.*, No. 2244, Vol. 87, 1919, Jan. 4, pp. 15-16.

PAINES, G. P. Report on modes of air motion and the equations of the general circulation of the earth's atmosphere. Diags., bibliogr. *Monthly Weather Rev.*, Vol. 46, 1918, No. 7, pp. 311-323. Washington, D. C.

SHAW, NAPIER. **The travel of circular depressions and tornadoes and the relation of pressure to wind for circular isobars.** 26 pp.; maps, diagrs. *Geophysical Memoirs No. 12.* Meteorological Office, London, 1918.

SIMPSON, G. C. **The twelve-hourly barometer oscillation.** Maps, diagrs. *Quart. Journ. Royal Meteorol. Soc.*, No. 185, Vol. 44, 1918, pp. 1-19 (discussion, pp. 18-19). London. [Followed by "A Note on the Propagation of the Semi-Diurnal Pressure Wave" by F. J. W. Whipple, pp. 20-22.]

WARD, R. DEC. **Climate—Considered especially in relation to man.** 2nd edit., revised. xv and 380 pp.; maps, diagrs., bibliogr., index. (Science Series, No. 20.) G. P. Putnam's Sons, New York and London, 1918. \$2.00. 8½ x 5½. [In the present new edition of this standard work the chapters on "The Characteristics of the Polar Zones" and on "Change of Climate" have been revised, the former mainly according to Meinardus for the Antarctic, and the latter to take into account Huntington's recent work. Although involving the making of new cuts it might have been advisable to show the Northeast Foreland of Greenland and Nicholas II Land on the three polar charts, Figs. 30, 31, and 32, in order to bring them up to date in their representation of the distribution of land and water. The first edition, 1908, was reviewed in *Bull. Amer. Geogr. Soc.*, Vol. 40, 1908, p. 490.]

HUMAN GEOGRAPHY

ECONOMIC GEOGRAPHY

Production

CROOKES, WILLIAM. **The wheat problem.** 3rd edit., with a chapter on future wheat supplies by R. Henry Rew, and introduction by Lord Rhondda. xvi and 100 pp.; diagrs. Longmans, Green & Co., London, 1917. \$1.25. 8 x 5.

In 1898 Sir William Crookes, delivering his presidential address before the British Association for the Advancement of Science, stated the wheat problem thus: "What can the United Kingdom do to be reasonably safe from starvation in presence of two successive failures of the world's wheat harvest, or against a hostile combination of European nations?" Sir William's own contribution towards solution was that "starvation may be averted through the laboratory" and he proceeded to discuss the problem of fixation of atmospheric nitrogen. The pertinence of the entire discussion to the present food situation in Britain led the late food controller, Lord Rhondda, to republish the address in revised form. To the original statement has been added a chapter on recent developments. As Lord Rhondda points out in his introduction, the wheat problem may be solved in two ways—by increasing the acreage or by increasing the yield per acre. Decline of the wheat acreage in Britain and possibilities of extending it are briefly discussed (a full statement of the various factors entering into the problem is given in Hall: Agriculture After the War, New York, 1916). The question of oversea producing areas is looked into without particularly encouraging conclusions as regards the extension of production: "the extension of the wheat-growing area is nearing its limits." In this, however, Sir William is at variance with other authorities. As Lyde points out in an interesting review, "The Real Wheat Question" (*Geogr. Journ.*, Vol. 51, 1918, pp. 325-329), the climatic limits of wheat growing in Canada have not been reached. Canada is the nearest British source of supply, and by this geographer the *real* wheat problem, of the immediate present at least, is regarded as how to insure the Canadian supplies reaching the mother country.

A more optimistic view, however, is expressed in the concluding chapter, "Future Wheat Supplies," by Sir Henry Rew, who considers that the main point in which war conditions throw light on the future problem is "evidence of rapid response of wheat acreage to economic pressure." Furthermore, statistics show that during the decade 1901-11 the acreage of wheat has increased more rapidly than population; and of special interest to Britain is the ratio in the Empire, where the increase in acreage amounted to 45.5 per cent with a population increase of 6.6 per cent.

Sir William's chief contribution in the present as in the earlier editions is that of the chemist. He describes the various processes by which, since the date of his address, atmospheric nitrogen has been fixed on a commercial scale, and gives an interesting table of the imports and exports of synthetic nitrogenous fertilizers from 1913 to 1915.

ARNOLD, RALPH. **General conditions of the petroleum industry and the world's future supply.** *Bull. Geol. Soc. of Amer.*, Vol. 28, 1917, No. 3, pp. 603-616. [The writer believes that the maximum point of the world's petroleum production (disregarding Africa, an unknown but probably not important factor) will be reached within the

next ten years. The United States, Italy, Galicia, and Germany have attained their maxima. Canada and Russia showed maxima some years ago, but it is probable that new fields will be opened in both countries. In other oil-producing regions production is on the increase.]

DAVIS, A. P. **Irrigation works constructed by the United States government.** xvi and 413 pp.; diagrs., ills., index. John Wiley & Sons, Inc., New York, Chapman & Hall, Ltd., London; 1917. \$4.50. 9 x 6. [Engineering descriptions.]

FEARNSIDES, W. G. **The shortage of the supply of non-phosphoric iron ore.** Maps, diagrs. *Journ. Royal Soc. of Arts*, No. 3384, Vol. 65, 1917, pp. 743-754; No. 3385, pp. 757-766; No. 3386, pp. 771-783. London. [Abstracted in the *Review*, Vol. 5, 1918, pp. 74-75.]

— **Proceedings of the Third International Congress of Tropical Agriculture Held at the Imperial Institute, London, June 23rd to 30th, 1914.** xi and 407 pp. Internat. Assoc. for Tropical Agric., and John Bale, Sons & Danielsson, Ltd., London, 1914. 10s. 19½ x 6. [Containing abstracts of papers and reports of discussions. The papers read are contained in full in two volumes of "Transactions," published later.]

— **Rice, Production and uses of.** *Bull. Imperial Inst.*, Vol. 15, 1917, No. 2, pp. 198-267. London. [Deals exhaustively with production in British Empire and also gives an excellent summary of production in other countries.]

ROORBACH, G. B. **The world's food supply.** 33 pp.; diagrs. Reprint from *Annals Amer. Acad. of Polit. and Soc. Sci. (Publ. No. 1148)*, 1917, Nov. Philadelphia.

SALLIOT, P. **Gisements de potasse nouveaux.** Diagrs. *La Nature*, No. 2304, 1917, Nov. 24, pp. 324-326. [Cf. note in the *Review*, Vol. 5, 1918, p. 149.]

WILCOX, E. V. **Tropical agriculture: The climate, soils, cultural methods, crops, live stock, commercial importance, and opportunities of the tropics.** xviii and 372 pp.; ills., bibliogr., index. D. Appleton & Co., New York and London, 1916. \$2.50. 8 x 5½.

HISTORY OF GEOGRAPHY AND EXPLORATION

AVERDUNK, H., AND J. MÜLLER-REINHARD. **Gerhard Mercator und die Geographen unter seinen Nachkommen.** viii and 188 pp.; map, diagrs., ills., index. *Ergänzungsheft No. 182 zu Petermanns Mitt.* Justus Perthes, Gotha, 1914. M.14. 10½ x 7½.

This biography, in the main, is the work of the first-named author, the second apparently contributing but two or three chapters relating chiefly to Mercator's globe studies and to his studies in the fields of magnetism and map projection. The *raison d'être* for the publication is stated to be a desire to furnish in the German language a biography of the distinguished geographer for whom, with Breusing, a German nationality is claimed, contrary to the opinion of van Raemdonck, who considered him to be of Flemish origin.

It may be said that the authors have prepared an exceedingly interesting, and for the general purposes of students and readers, an adequate account of the life and work of Mercator. Such information of value as the years have furnished concerning him, since the issue of the van Raemdonck and the Breusing publications, has been duly inserted, notably a reference to the influence now known to have been exerted upon Mercator's early years by Gemma Frisius, whose recently discovered globes give the interesting evidence.

Chapters have been included giving detailed notice of the Gemma globes and also of the globes of Mercator, which exerted an influence very pronounced in globe construction for a period of more than one hundred years.

To each of the distinguished geographer's individual large maps, including his world map of the year 1538—and the authors here perpetuate the now inexcusable error that but one original copy of this is known—his map of the British Isles and of Europe, as well as his all-important world map of the year 1569, consideration is given, though a detailed critical study of neither has been undertaken.

Mercator's letters, so valuable as intimate sources for an understanding of the character of the man, and published by van Raemdonck and van Ortry, are not reprinted in full in this work; but a running comment on each is presented showing the particular

importance attaching to it. The concluding chapters give an account of Mercator's sons and successors who carried on the work he had initiated. Illustrations, to the number of 28 full-page plates (including portraits, title pages, and maps), have been inserted.

E. L. STEVENSON

GALLOIS, L. Paul Vidal de la Blache. Ill. *Ann. de Géogr.*, No. 147, Vol. 27, 1918, May 15, pp. 161-173. [An admirable account of the life and work of the late dean of French geographers.]

ISNARD, ALBERT. Joseph-Nicolas Delisle: Sa biographie et sa collection de cartes géographiques à la Bibliothèque Nationale. *Bull. Section de Géogr. du Comité des Travaux Hist. et Sci.*, Vol. 30, 1915, pp. 34-168. Paris, 1916.

KELTIE, J. S. A half-century of geographical progress. Maps. *Scottish Geogr. Mag.*, Vol. 31, 1915, No. 12, pp. 617-636. [Abstracted in the *Review*, Vol. 2, 1916, pp. 306-307.]

KELTIE, J. S. Thirty years' work of the Royal Geographical Society. *Geogr. Journ.*, Vol. 49, 1917, No. 5, pp. 350-376 (discussion, pp. 373-376).

LULOFS, H. J. Geographie in den spiegel der oudheid (Polybius, Strabo, Cl. Ptolemaeus, Eustathius). *Bibliogr. Tijdschr. Kon. Nederl. Aardrijksk. Genoot.*, Vol. 34, 1917, No. 6, pp. 822-852; Vol. 35, 1918, No. 1, pp. 20-52.

MARGERIE, EMMANUEL DE. La géologie. Ill., bibliogr. *La Science Française*, Vol. 1, pp. 201-264. (Exposition universelle et internationale de San Francisco.) Librairie Larousse, Paris, 1915. 9 x 6. [An account of France's contribution to geological science.]

— Margerie, Emmanuel de, Notice sur les travaux scientifiques (géographie et géologie) publiés par, de 1882 à 1917. 68 pp. Gauthier-Villars et Cie, Paris, 1917. 11 x 9.

MARINELLI, OLINTO. Lo stretto di Anian e Giacomo Gastaldi. Map. *Riv. Geogr. Italiana*, Vol. 24, 1917, No. 1-2, pp. 39-49. Florence.

MERINO, ABELARDO. Estudios histórico-críticos sobre Magallanes. Ill. *Bol. Real Soc. Geogr.*, Vol. 59, 1917, No. 4, pp. 500-536. Madrid.

RICCHIERI, GIUSEPPE. La geografia al Congresso della Società Italiana per il Progresso delle Scienze (Milano-Torino 2-7 Aprile). *Riv. Geogr. Italiana*, Vol. 24, 1917, No. 5, pp. 181-186. Florence.

SMITH, G. E. Ancient mariners. Map, ills. *Rept. and Proc. Belfast Nat. Hist. and Philos. Soc., Session 1916-17*, pp. 44-72. Belfast, 1918. [Early maritime intercourse and the part it has played in the diffusion of civilization. See also *Journ. Manchester Geogr. Soc.*, Vol. 33, 1917, Parts I-IV, pp. 1-22.]

T[HOMSON], J. A. Alexander McKay. Ill. *Trans. and Proc. New Zealand Inst.*, Vol. 50, 1918, pp. vii-viii. Wellington. [This volume contains a short biographical sketch of Alexander McKay, late Government Geologist of New Zealand, whose geological explorations covered almost the entire area of New Zealand and whose writings form the only source of information regarding many parts of the islands.]

VIGNAUD, HENRY. Americ Vespuce, 1451-1512: Sa biographie, sa vie, ses voyages, ses découvertes, l'attribution de son nom à l'Amérique, ses relations authentiques et contestées. ix and 421 pp.; index. (Recueil de Voyages et de Documents pour servir à l'histoire de la géographie.) Ernest Leroux, Paris, 1917.

WATSON, FOSTER. Richard Hakluyt: A pioneer of colonisation. *United Empire*, Vol. 8 (N. S.), 1917, No. 4, pp. 225-238 (discussion, pp. 237-238).